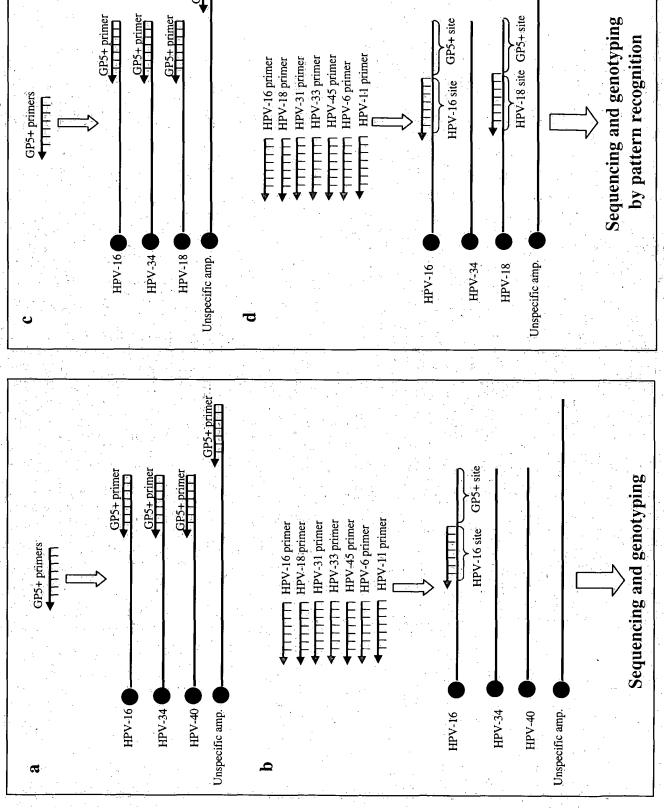
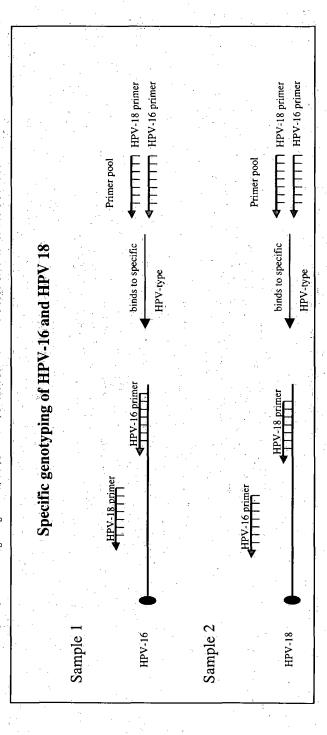
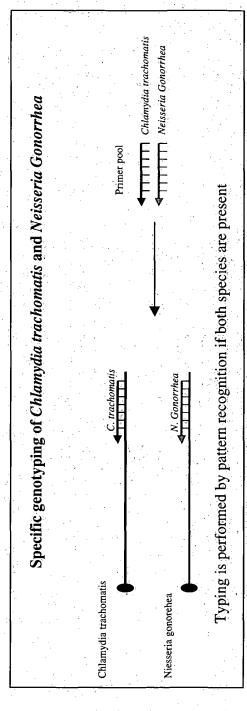
Inventor: Baback Gharizadeh, Address: Högalidsgatan 33, 1 tr, SE-11730, Sweden Tel work: +46-8-5537 8393 home: +46-8-34 82 97 Figure 1



Inventor: Baback Gharizadeh, Address: Higalidsgatan 33, 1 tr., SE-11730, Sweden Tel work: +46-8-5537 8393 home: +46-8-34 82 97 Figure 2

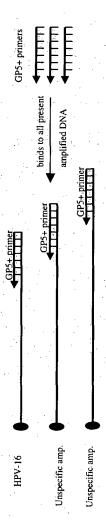




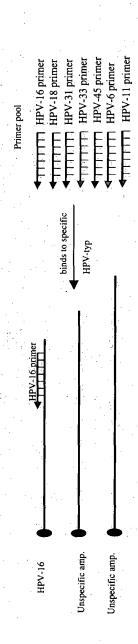
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Invenor: Baback Gharizadeh, Address: Högalidsgatan 33, 1 tr, SE-11730, Sweden Tel work: +46-8-5537-8393 home: +46-8-34,82 97 Figure 3

amplifications. Signals from all available types and unspecific amplifications are detected, interfering with DNA sequencing Sequencing primer hybridization with general primer GP5+ in amplicons containing uspecific

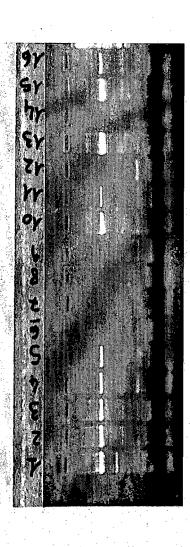


pool in amplicons containing unspecific amplification. Only the type specific oligonucleotide(s) will bind Sequencing primer hybridization with type-specific multiple sequencing primers

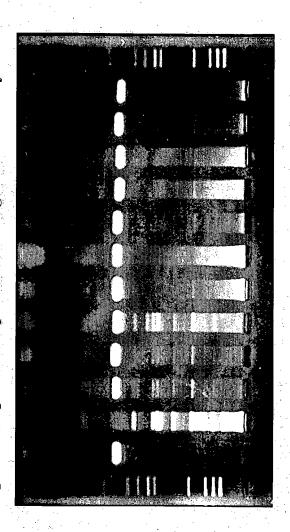


Unspecific amplification products from genomic DNA by MY09/11

H702/H712



Unspecific amplification products from genomic DNA by GP5+/6+



Winning read length, time and enhanced sequence quality

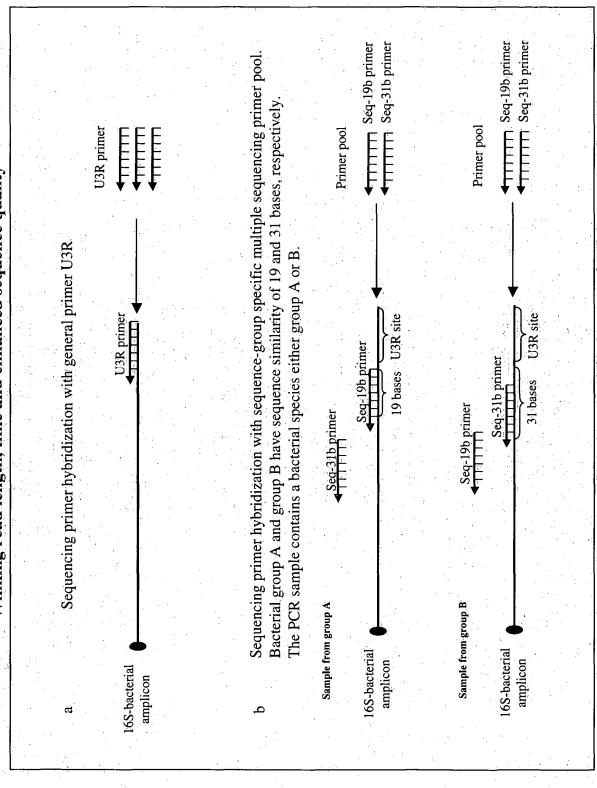


Figure 6

Inventor: Baback Gharizadeh, Address: Högalidsgatan 33, 1 tr, SE-11730, Sweden Tel work: +46-8-5537 8393 home: +46-8:34 82 97

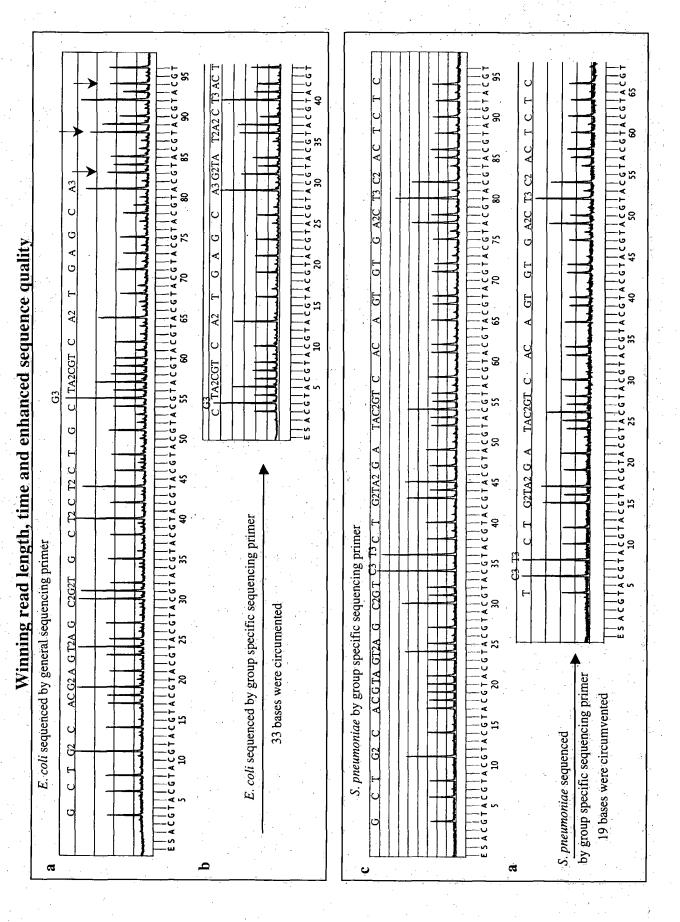
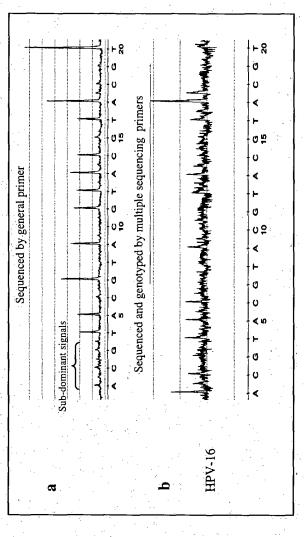
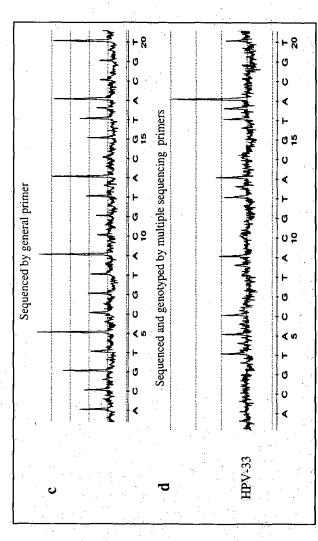


Figure 7

Inventor: Baback Gharizadeh, Address: Högalidsgatan 33, 1 tr, SE-11730, Sweden Tel work: +46-8-5537 8393 home: +46-8-34 82 97



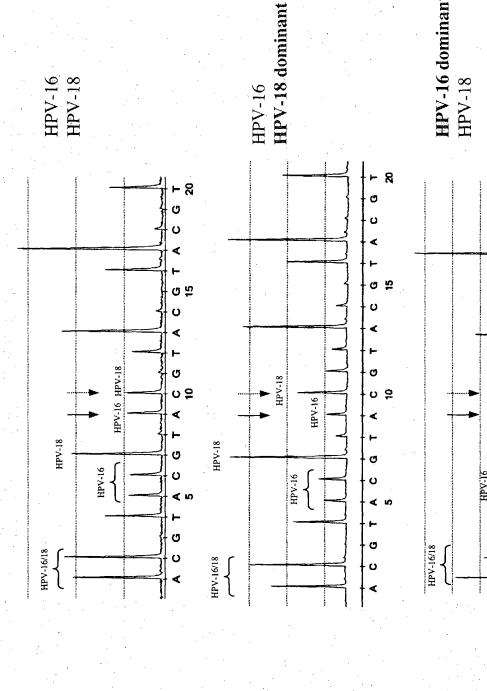
Sub-dominant type and unspecific amp.



Low yield PCR containing multiple infection

Figure 8Inventor: Baback Charizadeh, Address: Högalidsgatan 33, 1 tr, SE-11730, Sweden Tel work: +46-8-5537 8393 home: +46-8-34 82 97

Multiple infection of HPV-16 and HPV-18 in 3 clinical samples detected by multiple sequencing primers and pattern recognition



HPV-16 dominant

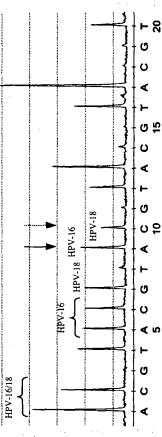
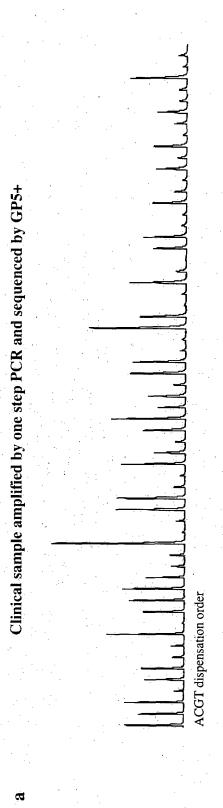


Figure 9

Inventor: Baback Gharizadeh, Address: Högalidsgatan 33, 1 tr, SE-11730, Sweden Tel work: +46-8-5537 8393 home: +46-8-34 82 97

Sequencing of simulated HPV multiple	Sequencing of simulated HPV multiple infections/variants by Pyrosequencing
HPV-16/72/6 mixed sample sequenced with general primer	b HPV-16/72/6 mixed sample sequenced with four primer mix A ² C T A C A T A T A ⁵ T A C T A ² C T ³
c HPV-18/73/40 mixed sample sequenced with general primer	HPV-18/73/40
	ACT G3 C A2 TA T G A T G C T
e HPV-33/73/6 mixed sample sequenced with general primer	ple sequenced with four prim
HPV-45/72/40 mixed sample sequenced with general primer	HPV-45/72/40 mixed sample sequenced with four primer mix
5.0	n C2 T GT G C2 A2 GTAC A TA T

Amplicons with unspecific amplification products



Amplified by one-step PCR and sequenced by multiple sequencing primers

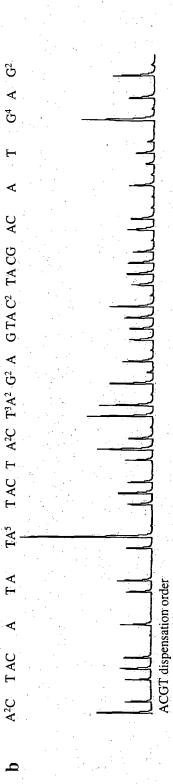


Figure 11
Inventor: Baback Gharizadeh, Address: Högalidsgatan 33, 1 tr, SE-11730, Sweden Tel work: +46-8-5537 8393 home: +46-8-34 82 97

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Figure 12
Inventor: Baback Gharizadeh, Address: Högalidsgatan 33, 1 tr, SE-11730, Sweden Tel work: +46-8-5537 8393 home: +46-8-34 82 97

